

Spring 2015

A Character Study: Partisan Politics in the Age of Twitter

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A Character Study: Partisan Politics in the Age of Twitter

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Date of Defense

April 2, 2015



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I. ABSTRACT

It's no secret that the world is quickly shifting from the nightly news and the daily paper to a 24/7 rapid-response information environment driven by smartphones and other personal computing devices. Also readily apparent is the hyper-partisanship that has come to mire America's legislative process. This paper will explore the connection between the two phenomena by reviewing a mix of academic and popular literature and conducting an original experiment to arrive at a better understanding of how Internet-mediated communication technologies drive political opinions at the individual level. Specifically, statistical analyses are performed to parse out the differences between being presented with information in the form of tweets and being presented with information in the form of an article. While the findings suggest that there is no significant difference between tweets and articles in terms of issue polarization, a closer inspection reveals that formatting coupled with ideologically filtered points-of-view has implications for learning about, becoming interested in, and engaging with hot-button political issues.

Keywords: James Bradbury; undergraduate thesis; political science; University of Colorado Boulder; American politics; polarization; media; Internet; news; information; MSNBC, Fox News, Twitter; Facebook; Google;

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II. INTRODUCTION

Anticipation had been building for months. After the trips to Iowa, the fundraising dinners, the exploratory committees, and increasingly frequent media appearances, there was not really any question about *who* was eyeing a run for president of the United States in 2016. Rather, in this strategic “invisible primary,” the question was *who would be first?* The pundits got their answer just after midnight on March 23, 2015 when Ted Cruz, the firebrand Texas junior senator announced: “I’m running for President and I hope to earn your support!” (Cruz 2015). The message, accompanied by a 30-second video of sprawling landscapes and a smiling cross section of Americans, was hardly original, but the platform bucked a trend in the long history of presidential campaign launches—it happened on Twitter.

The ubiquitous social network, popularized first by the likes of movie stars and professional athletes has, since its creation in March of 2006, grown to over 288 million monthly active users, including 100 percent of United States senators, and 99.1 percent of members of the House of Representatives (Twitter 2015). With the maximum length of a post only 140 characters, the microblogging site offers a distinct contrast to more established media and dominates conversations on the state of contemporary journalism, due in part to its restrictive form. In fact, this author gets the majority of his daily news via an iPhone through outlets he “follows” on Twitter. Realizing how dependent he, and so many others, has become on using the service helped inspire this thesis.

“So strong is this propensity of mankind to fall into mutual animosities,” James Madison remarked, “that where no substantial occasion presents itself, the most frivolous and fanciful distinctions have been sufficient to kindle their unfriendly passions...” (Madison 1787, 201). Were our fourth president alive today, he would doubtless discover social networking sites, news aggregators, and the Internet more broadly, to be tools that easily allow the flames of political discord to fan.

Pursuing this thesis about the effects of the Internet on American politics stems from the idea that a modern individual can feel very well-informed about current events without ever picking up a printed daily paper or watching the nightly news. How can that be? The answer lies in the changing nature of communications technology. For a growing number of people, their primary source of political information is one being shaped by forces unlike any in “traditional” media. This project serves to uncover those

unique characteristics of how news is consumed in the digital age, and to examine its effects on partisanship among the American electorate. Over the past decade-plus, the means through which information is disseminated to a mass audience has undergone a radical transformation, as has the presence of an ideological divide between the two major political parties in the United States. While there is no suggestion that the former holds all of the explanatory power over the latter, they most certainly present a relationship worth exploring. The objective of this work is at once reflective and forward-looking. This paper hopes to show how the ways in which we navigate our political universe are changing due to shifting communications preferences, and offer a glimpse into the future of constituencies with hyper-personalized sources of information.

These goals will be accomplished by beginning with a background on topics that are foundational to these research interests before then moving into a review of the existing academic literature. Next, theory and hypotheses will be discussed and operationalized using an originally designed experiment. Following the experiment, data will be applied to models and analyzed so that conclusions may be drawn that tie back to assumptions outlined in the pre-experiment hypotheses. Finally, these findings will be extrapolated to comment on the future of American politics and propose steps we can take to combat, as Madison mentioned, those kindling animosities.

Formally, the question this paper seeks to answer is: how does Internet-mediated political information influence one's strength of partisanship? Before long, it seems, almost everyone in America will use online sources as their primary means of learning about the world. Answering this question is essential so that citizens may become more critical consumers of political news, content providers may better understand how they shape society, and future political scientists may have a greater pool of data from which to further their own studies.

III. BACKGROUND INFORMATION

The Value of Ideological Diversity

The discussion begins with an excerpt from John Stuart Mill's *On Liberty*, the philosopher and political economist's powerful mid-nineteenth century defense of civil rights, free speech chief among them. While many passages speak to our current state of political discourse, the following rings especially true:

Unless opinions favorable to democracy and aristocracy, to property and to equality, to cooperation and to competition, to luxury and to abstinence, to sociality and individuality, to liberty and discipline, and all the other standing antagonisms of practical life, are expressed with equal freedom, and enforced and defended with equal talent and energy, there is no chance of both elements obtaining their due; one scale is sure to go up, and the other down. Truth, in the great practical concerns of life, is a question of the reconciling and combining of opposites... (Mill 1859, 49)

In a society with such myriad political interests as the modern-day United States, recognizing that another person thinks differently than you do, and being willing to compromise with him is paramount to the long-term health of the society. Another monumental work in that vein is Walter Lippmann's *Public Opinion*. Written in 1922, his main claim applies an everyday lens to Mill's high-minded philosophy. Lippmann says that men cannot obtain or even comprehend a perfect variety of information; that judgments must be made using stereotypes, akin to sailors using scaled maps to navigate the ocean (Lippmann 1922, 11). We are hardly living in a time of information scarcity, but nearly a hundred years after *Public Opinion*, the challenge of separating wheat from chaff—fair analysis from click-bait—remains. The whole of the World Wide Web houses the most complete collection of information in human history, yet as it expands upon in the sections to come, it does not appear that the medium is conducive for allowing individuals to encounter a healthy diversity of opinion. Instead, caricatures of opposing viewpoints get created and used for judgment, which hardens opinions and discourages compromise.

Polarization Theories

The 112th United States Congress, at the time of this writing the most recent session for which DW-NOMINATE scores are available, was the most polarized in history (Matthews 2013). While the thrust of the argument in this thesis is that Internet-mediated political information contributes to the formation of extreme opinions in the American electorate, it would be negligent to suggest that this relationship explains the entire, or even a majority, of the polarization narrative. There are many strong arguments to be made that the American political process has become polarized by offline

factors. One school of thought describes constituent-driven polarization. In *The Big Sort*, journalist Bill Bishop discusses how since the late 1970s people have been steadily relocating and grouping their physical selves into areas with like-minded people and become more insulated from dissenting opinions as a result (Bishop 2004). The idea is that citizens look to their neighbors as a point of reference for what are “normal” political beliefs, and when those beliefs are related, differing opinions come across as foreign and fringe.

Other well-advanced hypotheses suggest that polarization is largely elite-driven, that changes in legislative procedures and congressional behavior have pushed people to the ideological poles (Theriault 2008). Others that subscribe to a “rules of the game” hypothesis think that the root cause of dysfunction in American government is actually the very framework of U.S. government itself (Toobin 2013, 64). A third, hybrid theory, says that the preferences of the electorate and the policies of lawmakers work in tandem. A 2006 book, *Polarized America: The Dance of Ideology and Unequal Riches* advocates that political polarization and income inequality rise together and feed off of each other to create an increasingly disparate citizenry (McCarty et al 2008). With the not-so-distant Occupy Wall Street movement behind us, and budding 2016 campaign rhetoric about wealth redistribution, McCarty et al. have a theory that deserves continued consideration.

Still, not all political scientists agree that there is substantial polarization taking place in American politics. One of the most well known critics is Morris P. Fiorina, a Stanford professor who argues that the chasm between your average Democrat and Republican citizen is not as wide as the media would have you believe. His take is that citizens *appear* but actually are *not* polarized because they have to make false choices between two continually drifting ideologies (Fiorina 2011). Georgetown professor Hans Noel makes a similar argument against “real” polarization. He finds that while a clear divide between liberal and conservative representatives exists today, it has *always* existed, just not in such a clean manner. For example, in the mid-20th century, Democrats in the southern United States were more ideologically conservative than northern Republicans. So, when legislation like establishing Medicaid passed with “bipartisan” support, that’s because ideologically consistent people voted together and they happened to be from different parties (Noel 2014). As many more political scientists point out, if one is to look at the American political system as a whole, he would find that most people are ideologically close to each other. At the individual level however, significant differences on salient issues (i.e. abortion, same-sex marriage, taxes, war) create a perception

that the political left and right are wildly dissimilar (Hetherington and Weiler 2009, 32).

That perception appears to be very important. In a recent report from the Pew Research Center, *Political Polarization in the American Public*, researchers found that indeed, the majority of Americans do not hold uniformly liberal or conservative values, but that those same people are disengaged with the political process. Unsurprisingly, it is highly partisan people that are motivated to participate in politics and make their voices heard. These individuals comprise the minority that drives the national political discussion (Pew Research Center 2014c, 8). For the purposes of this project, focus will be paid to citizen-driven rather than elite-driven polarization, and will pay particular attention to the highly active pockets of actors entrenched in ideology.

A Series of Tubes

Nowhere is the ability to isolate one's self from ideological conflict more possible than the Internet. Born from Cold War fears of a nuclear attack capable of crippling the nation's intelligence, the U.S Department of Defense created the Advanced Research Projects Agency Network (ARPANET), which delivered its first message in 1969. ARPANET was built as a distributed, decentralized network that sent information across the country by breaking it up into packets so the whole system could survive if one of its nodes, or, computer hubs, were to be destroyed (Galloway 2004, 5). Slowly, as Soviet fears began to subside, different universities gained access to this information repository. In 1991, Swiss computer programmer Tim Berners-Lee invented the World Wide Web, which is what most people know the "Internet" to be. Today, this atypical information system—more like an interstate highway of knowledge than a single road—is seeing more traffic than ever before, and continues to transform politics. More than a decade ago, political scientist Bruce Bimber wrote of the Internet, "at no time in the history of American democracy has a new set of communication and information-handling capacities been assimilated so rapidly by the political system" (Bimber 2003, 1).

Since essentially any media can be converted into binary code and sent at instant speeds, many scholars insist that the Internet is the be-all end-all of communications networks. But has this story not been written before? As Columbia Law School professor Tim Wu discusses in his book *The Master Switch: The Rise and Fall of Information Empires*, technologies from telephones

to TVs were all thought to be impossible to supplant and resistant to centralization. Wu's hypothesis is that given enough time, the Internet will mature, like its communication brethren, into a centralized, even corporatized, entity where power is wrested from content users and into the hands of content providers (Wu 2011). As the legal scholar Lawrence Lessig lamented at the turn of the twenty-first century, the Internet is becoming less politically free all the time, and average people are doing nothing about it (Lessig 2001, 268). One needn't look further than recent net neutrality action to grasp the political consequences that Lessig and Wu address (Federal Communications Commission 2015, 3).

As the Internet continues to become regarded more like an essential utility than a superfluous luxury, experts have considered a stunning variety of advancements to come. In a 2014 survey for Pew's Internet Project, entitled "Digital Life in 2025," it was asserted that most people have not yet noticed the societally relevant changes taking place in our communications networks; As the difference between our on and offline selves becomes transparent, networks will become even more disruptive (Pew Research Center 2014b). As Robert Putnam put it back in his book *Bowling Alone: The Collapse and Revival of American Community*, "...the *possibility* of even more narrowly focused communities in cyberspace [turning] into reality will depend in large part on how the 'virtual' facet of our lives fits into our broader social reality as well as our fundamental values" (Putnam 2000, 178). This thesis will not elaborate further on the founding or structure of the Internet, but in sections to come, we will grapple with understanding how the line between one's virtual and real life identity is fading, and what it means for consuming political information.

Evil Empires?

Tracking with the rapid expansion of social media use across America (Brenner and Smith 2013), a wealth of information has sprung-up about the presence and effects of algorithms operating within sites like Facebook and Google. Even at the dawn of the 21st century, when commercial search engines were still in their infancy and effective online social networking was little more than a dream, law professor, and eventual head of the White House Office of Information and Regulatory Affairs (OIRA) Cass Sunstein published his book *Republic.com*. In it, Sunstein advances a prescient account of the future of communications in an increasingly personalized world, where code would come to segregate people based on their existing beliefs (Sunstein

2002). The premise is simple: there is so much information on the Internet that computerized rules are necessary to sort it all, and that customizable rules allow users to filter what they do and do not want to see. Making sure users see exactly what they want as quickly as possible drives innovation at Internet firms that live-or-die by the strength of their algorithms, their abilities to use “search engines [to] supplement the limited human brain” (Auletta 2010, 40).

A leading critic of the way information is communicated online, Eli Pariser explains that the web has become so increasingly personalized and sophisticated at selecting the information you “want” to see, that two people searching for the same term will not get the same results. He calls this the “filter bubble,” whereby computer algorithms have replaced human editors in the news process (Pariser 2012). While exceedingly useful if you want to search for “pizza near me,” the automatic nature of search is potentially worrisome for those of us who rely on Internet-based information curators for our political news and opinion. Just like the neighborhood dynamic that Bishop outlined, self-selecting sources of online information leads people to distrust what is not in-line with “their news” or “their facts” (Johnson 2012, 55). This is a considerable area of concern as people move into digital-only and mobile-first news. More and more studies show that when people get their political views tied up in factual beliefs, the coupling is difficult to undo regardless of the messaging (Nyhan 2014).

For all its pitfalls, though, digital democracy has proven effective at producing positive political change. Facebook has become one of the first places dissatisfied people go to voice their opinions. Its viral communication tools enable large groups of people to join together quickly (Kirkpatrick 2010, 290). Twitter too has found its place in political discussion, serving as a way for citizens to interact with candidates and leaders, but also to interact with each other to discuss views. For example, during the first 2012 Obama-Romney presidential debate, there were 158,690 tweets per minute related to the event and people who tweeted paid more attention and thought the event was more important than those who did not (Houston, et al. 2013, 302). Google is also doing their part by offering different APIs for those interested in “civic tech,” and promoting YouTube as a channel for learning about issues from all sides (Levy 2011, 318). People can’t be forced to encounter opinions different from their own, but it’s heartening to know that organizations with the power to control information are aware of the problem and trying to fight back. Vital to the research of this thesis, the arguments outlined in this

section will not be developed further, and will instead be used as theoretical underpinning.

Revenue Models

If the future of communication promises to exist through screens, then it is worthwhile to take a look at the ways that are being upended. It's no secret that newspapers make almost all of their money in two ways: selling subscriptions and selling advertising space. With the increasing popularity of the Internet, many people are just not willing to pay for news anymore when there is so much "free" information out there. The thought is that your everyday person is willing to sacrifice a bit of quality from an established, but costly news source like *The Rocky Mountain News*, and substitute it with a cheaper, more-frills alternative like BuzzFeed. This causes subscriptions to decline. More critically, sites like Craigslist poach a large share of people who would have purchased a block in the once-profitable classifieds section of a daily paper. This causes a massive change in revenue models for print media. In 2003, *The New York Times* made just over 27 percent of their revenue from circulation. Fast-forward ten years, and the "Paper of Record" now relies on circulation for roughly 50 percent of their total revenue (Bach 2014). To make matters more dire, circulation numbers are falling, and even with evolving online paywall models, revenues look headed for significant declines.

But neither the demand for information nor the money that accompanies it is disappearing. Instead, it's being redistributed to giants like Google and Facebook. To get a sense of the volume, consider that in 2011, *Wired* reported that Google was making \$3 billion a *month* in advertising and that it accounted for 97 percent of their revenue (Singel 2011). Facebook has also beefed-up their advertising offerings in recent years. Why does this matter? It matters because the future of political discourse is deeply tied to the quickly evolving promise of the Internet. With its user-first founding and ability to make the world's information easily accessible, people, in theory, ought to become more highly-educated, and willing to entertain opposing points of view without feeling obligated to accept them, as the oft-used Aristotle quote suggests. Yet, with the abundance of information on the Internet, people are reluctant to pay for it—in the traditional sense. Nobody has, nor one would suspect ever will, need to fork over his hard-earned cash to type a query into a search bar. But he, we, all of us are paying with our information. Every time somebody clicks on a sensationalizing link or targeted advertisement, the content provider gets an untold number of data

points about you. Big data and politics is a dissertation topic in and of itself, but it is necessary to have a tacit understanding of the motivations of content providers before taking any steps to analyze the byproducts of their world.

@Grandma

It has become a favorite scene for producers of popular culture: a technologically inept “old person” has trouble with the basic operations of his cell phone while a teenage family member texts and surfs circles around him. One of my grandmothers has never owned a personal computer, so yes, there may be some teeth to this stereotype. But do you know what my grandma always does? She votes—and so do her friends. According to the Census Bureau, 72 percent of citizens ages 65 and over voted in the 2012 presidential election. That same year, 45 percent of citizens between the ages of 18 and 29 cast a ballot. Looking at sheer turnout, that’s a difference of 9.1 million votes in favor of the older population (File 2014, 5). Another statistic worth highlighting is that as of January 2014, 97 percent of Americans between the ages of 18 and 29 use the Internet, while only 57 percent of those over the age of 65 do (Pew Research Center 2014a). These facts and others like them are meaningful to this paper because whole blocks of politically active people will be unaccounted for in the hypotheses, and largely absent from the experiment. While recent studies suggest that 82 percent of Millennials get the majority of their news from online sources (Young 2015, 5), theories drawn from those reports face resistance, as many politically active people do not participate in online discussion like these “digital natives.”

IV. LITERATURE REVIEW

Partisan Media

Whether or not you subscribe to any of the aforementioned ideas about polarization in America, there’s no denying that the news media plays an enormous role in educating the public and informing their opinions about current events. We live in an era of unprecedented choice when it comes to our news. The average home in the United States has access to 130 television channels (Arceneaux and Johnson 2013), and the plethora of news sites on the World Wide Web is, for all intents and purposes, unlimited. To make sense of navigating so much information, people have to make choices and selectively expose themselves to what they deem to be sources of high quality and low cognitive dissonance (Stroud 2011, 16).

Not long ago there began to be an increase in the number of partisan news sources that are clearly branded as coming from the political left or right. Today, Americans are consuming more of it than ever before (Levendusky 2013, 4). Theoretically, this would suggest that Americans are becoming more polarized as a result, but as Princeton political scientist Markus Prior has pointed out, the statistics are deceiving. He says that with the expansion of options many Americans just don't tune into news at all (Prior 2007). He clarifies by saying that those who do are now able to select sources that fit more neatly with their political beliefs than they could have in the past (Prior 2013, 120).

While sources concerning television have so far been used as a proxy for online media choice, scholarly work has been devoted to self-selectivity on the Internet itself. There have been many arguments laid out for different interpretations of the debate surrounding ideological segregation. Some say that the nature of social media and online news creates "echo chambers," (Halberstam and Knight 2014), while others say with equal fervor that the Internet is no more likely to separate people than other offline mediums or face-to-face interactions (Gentzkow and Shapiro 2011, 813-816). It appears that the main disconnect between these two crowds is the scope of their work. Macroscopic approaches show little difference between the Internet and other mediums, while studies into Internet-specific processes such as social networking provides results that differentiate mediums more conclusively.

Information Enclaves

To better illustrate the concept of a cloistered information environment, let's assume a thought experiment. Suppose you are in a group of people you have not met before, and someone, Bill, brings up climate change. A set of arguments is put forth, and as it happens, you, Bill, and his buddies all have nearly identical views about the topic. You subconsciously want to avoid friction with these strangers, so even though they're slightly more enthusiastic about some policy, you're willing to accept it or at least not oppose it out loud. This seems like a very rational decision on your end, but it is also a classic example of the phenomenon known as "groupthink" (Sunstein 2009, 32). In many forms of media, cable news most obviously, but the Internet too, people often find themselves surrounded by information that confirms their existing political beliefs. Yet, having a strong opinion is only a portion of what makes partisan media polarizing. A more pressing concern is

how the media influences one's likelihood to compromise, or even place any value at all in opinions that are different than their own.

To help describe how subconscious decision-making effects outward actions, rely for a second on the social psychology principle that all reasoning is motivated. By that it is meant that political actors have two goals: being accurate and conforming to partisan beliefs. Even if one enters a setting trying to judge political positions in a completely objective manner, his implicit desire to act in ideological accordance with his preferred political party clouds his judgment (Taber and Lodge 2006, 756). Additional research has uncovered widespread agreement among researchers that partisan sources of information do in-fact polarize the electorate and politically active citizens more specifically. One of the especially alarming findings is a 2014 report by Pew that people are less likely to engage in online than offline political discussions and live in what's termed a "spiral of silence" (Hampton et al. 2014). This report points to conclusions that while social networking sites allow for more people to participate in politics, most are not doing so with a critical mind (Miller 2014). In this thesis, these established principles will be taken and used to explain experimental results.

This is Your Brain Online

There is a developing body of literature on the ways that the physical effects of the Internet are profoundly different than other mediums. Chief among those texts is Nicholas Carr's book *The Shallows: What the Internet is Doing to Our Brains*. Carr, like others before him, takes a technological determinist's view of the Internet, proposing that the technology has more control over us as humans than we do it. The most striking section is where Carr dives into biological studies and finds that browsing the Internet—with all the scanning, skimming, and multi-tasking—is re-wiring our brains' neuroplasticity. He determines that yes, the Internet allows us to consume more information at a faster rate than ever before, but our ability to process all of that new information is dramatically weakened (Carr 2011, 141). Since the aim of this thesis is political in nature rather than strictly psychological, not many sources devoted to cognition have been encountered. The few texts on the subject seem to point to a conclusion that once somebody has chosen a source of (political) information and likes it, he becomes stuck in a kind of "habit loop" and is unlikely to change that source since visiting it has become engrained deeply in his brain at the basal ganglia level (Duhigg 2014, 15). In this (and the other ways described above and below) the Internet is radically

different than “traditional” forms of media and lends itself very easily to politically polarizing behaviors.

Old Content, New Challenges

In 1964, Marshall McLuhan, the much ballyhooed media theorist, introduced a, at the time, radical hypothesis: “the medium is the message.” His take, that the way in which information is presented matters as much, if not more, than the content of the message (McLuhan 1964), transformed the ways people thought about communications technology. In conditions of email “daily digests,” and graphic-heavy Facebook posts, it would be absurd to suggest that people are consuming political information in the same way today as they were fifty (or even fifteen) years ago. Why does this matter? As McLuhan puts it, “The American stake in literacy as a technology or uniformity, applied to every level of education, government, industry, and social life is totally threatened by the electric technology.” (McLuhan 1964, 32). If citizens refuse to acknowledge the possible effects of gleaning information from the @nytimes Twitter feed opposed to engrossing themselves in the physical paper, then they become subservient to the constraints of their preferred medium. Research has yet to yield a data-driven analysis of how the format of a piece of political information influences the extremity of one’s opinions. It stands to reason that consuming the same content in different ways can lead to a greater or lesser understanding of any topic—but reason isn’t good enough. This is the space where this thesis is going to be able to make the greatest contribution to the literature on the effects of Internet-mediated political information.

V. THEORY AND HYPOTHESES

Based on the perceived gaps in current academic work and growing interest in the effects that changing forms of news consumption have on the political process, the following hypotheses were devised:

H₀ The format of information that one consumes will have no effect on the strength of his political opinions.

H₁ Exposure to pieces of information presented as tweets will change one’s political opinions to a greater and more extreme degree than exposure to pieces of information presented as articles.

H₂ Irrespective of format, exposure to ideologically filtered pieces of information will change one's political opinions to a greater and more extreme degree than exposure to neutral pieces of information.

In addition to the materials that have been reviewed, **H₁** stems from an understanding that due to not only the structure and hive mind mentality of the Internet, but the generally bloated nature of modern-day reporting, consumers are losing interest in lengthy sources of information (Kinsley 2010). As stories become shorter, from multi-page articles to mere sentences, the same essential information needs to be expressed, but the amount of supporting facts and nuance will invariably decline. That would mean that if people consume a large volume of brief “headline style” bits of information (see: social media), they are encountering many more conclusions and opinions than if they were to consume the same volume of content composed of articles. To be sure, readers in a pre-Internet day could have picked up the *Journal* and just skimmed headlines, but at least it was clear to that person that the story continued past the headline.

To survive in a market saturated by one-liners, content producers and editors—if the editors exist in the first place—are obligated to make their presentation of the news different from their competitors. What results is what has been called “a skewed version of reality that impacts how editors think about what reporters should be covering, and what reporters think is important” (Cillizza 2013). Certainly consumers, especially young people, are finding what they're after in the new information bazaar. In a March 2015 study of Twitter users from the United Kingdom, the number one reason respondents said they want to use Twitter to learn about politics was because they can “get information in a simple-to-understand way.” In the same study, 68 percent of respondents said they liked Twitter because they could learn “about issues that matter to me,” while 66 percent said the platform made politics “more interesting” (Geary 2015). Theoretically, this new environment, where value is measured by view time and clicks, is ripe for the rise of polarizing opinions.

H₂ is the result of many decades of political science research into the media and public opinion. If journalists are acting ethically and fulfilling their obligation to inform the public by supporting an open and civil exchange of views, information from objective sources, labeled in the below experimental design as “Neutral,” should not sway public opinion in a particular partisan direction (Society of Professional Journalists 2014). This should be true

regardless of the form the information takes, be it a hundred or a hundred thousand characters. In comparison, the goal of a partisan or otherwise ideological news source is to make an argument for the worldview that the author supports by presenting a cultivated selection of facts and little debate (Arceneaux and Johnson 2013, 33).

Interaction effects between content ideology and form are expected to be powerful in the experiment. Given tweets, messages congruent with a respondent's existing political beliefs will be more polarizing than either incongruent messages or neutral messages, while incongruent messages will be more polarizing than neutral messages. Given articles, congruent messages will still be more polarizing than incongruent or neutral messages, but the effect will be to a lesser degree than the corresponding content that was format as a tweet. Similarly, incongruent messages will be more polarizing than neutral messages, yet, less effective at changing opinion than if presented as tweets.

VI. RESEARCH DESIGN

In order to test hypotheses about content length and ideology, it is only natural that one turns to Twitter. Using existing tweets and content linked through the site, an original experiment was designed and conducted. This option was elected because many academics that write about media choice and partisanship have noted how difficult it is to establish causality and/or say with a degree of reliability that there are not spurious effects at work. By nature, a well-designed experiment makes it *impossible* for a dependent variable to cause an independent variable, and random assignment renders confounding variables moot (Kellstedt and Whitten 2013, 75).

In the experiment there are a total of eight different treatments, and each participant is randomly assigned to one of them:

	Liberal	Neutral	Conservative	Apolitical
Tweet	S ₁	S ₂	S ₃	S ₄
Article	S ₅	S ₆	S ₇	S ₈

The columns show the ideological bent of political information that a person is shown. “Liberal” corresponds to information from a source like MSNBC, “Conservative” corresponds to information from a source like Fox News, and “Neutral” corresponds to information from a source like the BBC. “Apolitical” information—by definition something with no relation to

politics, either in content or ideology—is represented by information from ESPN about Peyton Manning breaking the all-time NFL record for passing touchdowns. This serves as a control group and baseline for measuring effects of political stimuli. In order to be as objective as possible when assigning sources of information to represent political ideologies, a recent study from Pew Research Center, “Political Polarization & Media Habits,” was used. From their data a list of nine news outlets that correspond well to a wide distribution of political ideologies was constructed. For American liberals: MSNBC (@msnbc), Al Jazeera America (@ajam), and Mother Jones (@MotherJones). For American conservatives: Fox News (@FoxNews), Breitbart (@BreitbartNews), and TheBlaze (@theblaze). For moderates: *The New York Times* (@nytimes), *The Wall Street Journal* (@WSJ), and BBC World News (@BBCWorld). Each source was ranked “more trusted than distrusted,” the best available rating, by the constituency that shares the ideology sources are assigned to represent (Pew Research Center 2014d, 18). For the purposes of the experiment, all “Liberal” pieces of information are attributed to MSNBC, all “Conservative” to Fox News, and all “Neutral” to BBC World News. Using the names of these three well-established and popular sources in conjunction with some content from lesser-known sources is done to help mitigate the potential effect of information being dismissed by a respondent because the source is unknown.

Referring back to the above matrix, rows show the format of content that a participant interacted with. “Tweet” means that individual pieces of information about a given topic were presented as 140 characters or fewer, while “Article” means that the information was presented as an article with content closely linked with that of the tweets. To minimize variance, each person who completed the experiment was exposed to approximately 700 characters of content. This means that a respondent encountered either five 140-character tweets or one 700-character article. Of course, in the real world, articles are often much longer and tweets are consumed in various quantities, but compromises have to be made “in the lab.” If an “Article” was allowed to have twice as much content as a “Tweet,” it would be impossible to say which parts of the experiment were doing the heavy lifting in relation to the dependent variable. To make the experience as realistic as possible within these constraints, both tweets and article-length content were formatted to mimic actual website layouts using Adobe Photoshop CC (for visuals, please see the appendix of this paper).

To maintain as much consistency across the various treatment groups as possible, each piece of political information was about the same event: President Obama's November 20, 2014 speech announcing his executive order on immigration. This issue was chosen for a number of reasons, but predominantly because the speech was the most recent major initiative of the Obama administration, and it sparks an argument that many people are familiar with and have come to a decision about personally. Also, since participants in the experiment may have recently considered the issue of immigration, they would be less inclined to change their opinions as the result of exposure to new information. This puts the burden of proof squarely on the experimental manipulations and makes for more reliable results.

The reliability of the source manipulations can be somewhat questioned when it is taken into account what information each source displayed to a respondent. There are two potential causal mechanisms at work in this experiment. The first is the news organization that appears to the respondent as being responsible for writing the tweets or article, and the second is the content itself. For example, the way the experiment is set up, we cannot say for certain whether a respondent is reacting to the name, "Fox News," or to the content, "...use of executive authority to halt deportations harms..." This issue could be resolved by only changing the names of sources from treatment to treatment and leaving the content the same for each. However, this would not test the hypotheses, would make the experiment much less robust, and may in the end even undermine its accuracy because participants would expect a certain brand of information from each news source, and when that expectation is not met, they may dismiss the experiment as wholly fictional.

Another concern one might have is that the information presented in each treatment is not doing a good job translating a "liberal," "neutral," or "conservative" point-of-view. Great care was taken in setting up this experiment to make sure that information came across as distinct for each point-of-view, but not as hyperbole. For example, the "liberal" source describes the subjects of the executive order as "undocumented immigrants," while the "neutral" source describes them as "illegal immigrants," and the "conservative" source describes them as "illegal aliens." Furthermore, other political scientists were consulted to make sure that each piece of content accurately reflects the intended tone of its source (i.e. that "MSNBC" content sounds like MSNBC).

In accordance with the hypotheses, the assigned treatments are expected to produce the following results:

S₁ & S₃: These treatments should produce the greatest change in one's strength of opinion, with people who identify as partisans shifting further to their respective ideologies, and people who identify as independents shifting slightly toward a liberal point-of-view if exposed to S₁ or a conservative point-of-view if exposed to S₃. This is because both of these treatments are ideological tweets, and research suggests that tweets encourage polarizing behaviors more than articles, and that ideological pieces of information change a respondent's attitude about a given issue more than neutral or apolitical pieces. Moreover, opposing-party information (Democrats consuming Fox News tweets or Republicans consuming MSNBC tweets) is expected to have a bigger effect than in-party information since the impulse for many people is to focus on the opposite party's flaws instead of his own party's strengths (Levendusky 2013, 98).

S₅ & S₇: These treatments should produce a meaningful change in one's strength of opinion, with people who identify as partisans shifting slightly further to their respective ideologies, and people who identify as independents moving a little bit toward a liberal point-of-view if exposed to S₅ or a conservative point-of-view if exposed to S₇. The magnitude of these changes is expected to be less significant for exposure to articles than to tweets because articles require closer reading and are less digestible for the creation of quick opinions.

S₂ & S₆: These treatments should produce an appreciable, but not a dramatic change, in the strength of one's opinion, with people who identify as partisans shifting slightly to their respective ideologies, and people who identify as independents moving hardly, if at all. This is because both S₂ and S₆ are politically neutral sources. So, while a respondent will glean what he wants from either the BBC tweets or article, his opinion should not alter in nearly the same degree as it would if exposed to ideological tweets or articles.

S₄ & S₈: These treatments have no conceivable effect on the strength of a person's political opinions and therefore serve as baselines.

To present the predictions another way, here is a ranking of the treatments, from most to least polarizing:

$$(S_1 \ \& \ S_3) > (S_5 \ \& \ S_7) > (S_2 \ \& \ S_6) > (S_4 \ \& \ S_8)$$

Outside of the randomly assigned treatments, each participant will answer two sets of questions. The first set of questions, asked before exposure, will assess (among other things) a respondent's Internet usage and political self-identification. The second set of questions, asked after exposure, tests the

strength of a respondent's political opinions and appraises a multitude of components to do with the treatment a respondent is exposed to. Minimal demographic information including age, gender, and level of education, will also be recorded (for complete survey information and a letter of approval for this research from CU-Boulder's Institutional Review Board (IRB), please see the appendix).

The user experience of this experiment is created using Qualtrics, an online data collection tool used by more than a thousand universities around the world for academic research (Qualtrics 2014). Respondents are driven to the experiment by the online job forum Amazon Mechanical Turk (MTurk) and compensated \$0.30 for their time. MTurk, founded in 2005 allows "requesters" to post Human Intelligence Tasks (HITs) to be completed by an army of 500,000 crowdsourced workers (Marder 2015). When it comes to academic studies like this one, researchers have found that while MTurk users are younger and more ideologically liberal than the general public, relative to other convenience samples used in political science, MTurk users are often more representative of the general population and less expensive to recruit (Berinsky et al. 2012, 366). The experiment for this thesis, entitled "Internet and Politics Survey," went live on MTurk during the morning of February 2, 2015 and 2,008 responses were collected over the next two weeks.

VII. DATA ANALYSIS

Population Demographics

Consistent with the findings outlined in "Evaluating Online Labor Markets for Experimental Research: Amazon.com's Mechanical Turk," the population that participated in the experiment is substantially younger, more male, and more liberal than the general population of the United States. 56.39 percent of respondents are between the ages of 18 and 30, 64.75 percent of respondents identify themselves as male, and 46.81 percent of respondents identify themselves as Democrats while 18.73 percent identify as Republicans and 34.46 percent as political independents, respectfully. The population is also better educated than the United States as a whole, with 91.23 percent of respondents reporting at least some college education, and 49.45 percent having completed at least a bachelor's degree. When it comes to voting, the most basic measure of political engagement, 70.99 percent of eligible voters in the experiment population report voting in the 2012 presidential election, a full 9.18 points higher than the population of the

whole United States (File 2014, 3). The average person who participated in the experiment reports spending approximately five and a half hours every day using the Internet and gets 71.26 percent of their political information through the medium. This suggests that the population studied is Net-savvy and representative of the shift towards a digital-first information landscape. Finally, it may be of interest that participants in this experiment live very uniformly across the United States. A map of respondent locations may be found in the appendix.

Like most every experiment in the social sciences, the results of this work are susceptible to criticism that they do not accurately reflect real world conditions. It is the author's hope that the results below will be understood as a best attempt to describe natural phenomena using information gathered under necessarily artificial conditions.

Concerning Hypothesis One

As a reminder, H_1 is that exposure to pieces of information presented as tweets will change one's political opinions to a greater and more extreme degree than exposure to pieces of information presented as articles. More exactly, the expectation is that political tweets will move a respondent's rating of President Obama on the issue of immigration further away from the baseline established by apolitical information than political articles will. To test this hypothesis a Student's t-test was performed in order to compare values of the dependent variable as they relate to the treatment administered to a group of respondents. The dependent variable is a 0-100 "thermometer" rating of President Obama regarding the issue of immigration and the independent variable is whether a group of respondents was exposed to information presented as tweets or information presented as an article. The test indicates that H_1 cannot be confirmed as correct. The average rating among respondents exposed to tweets was 47.29 points and the average rating for those exposed to articles was 46.99 points, an insignificant difference. Statistically speaking, it breaks down to a t-statistic of 0.23 and a p-value of 0.82, which are far from significant.

Two other measures of political polarization were tested in the same fashion and yielded similar results. In the first of these studies, the dependent variable was a respondent's perceived polarization on a 0-100 thermometer, with a value of 0 indicating that the American political system is "not at all polarized," and a value of 100 indicating that it is "more polarized than at any point in history." When that value was run against the type of information a

respondent was exposed to, we find that the average rating among respondents exposed to tweets was 72.13 points and the average rating for those exposed to articles was 71.97 points, an insignificant difference. The t-statistic for this test was 0.15 with a p-value of 0.88, again, not significant.

The final measure of political polarization tested against the type of information a respondent was exposed to, was a difference of a respondent's thermometer ratings for both the Democratic and Republican parties. Simply, each person who completed the experiment was asked to rate his feelings of each party on a 0-100 scale. If, for example, someone rated Republicans at 80 and Democrats at 20, his score for this variable would be 60. The idea is that an individual with a high score is a more extreme partisan than an individual with a lower score. After another Student's t-test was run, we find that the average party difference for respondents exposed to tweets was 34.40 points and the average rating for those exposed to articles was 35.89 points. The t-statistic for this test was 1.18 with a p-value of 0.24, which, although closer than previous tests, was still not significant.

While disappointing that H_1 could not be confirmed, these results should be taken with a grain of salt. For the purposes of the experiment, it was essential that the amount of content did not vary across treatment groups. In a real-life scenario articles are considerably longer and usually more nuanced than presented in the experiment. Consequently, an "article" in the experiment functioned very similarly to a collection of five tweets. While the results here indicate no reason to believe that there is a significant difference between consuming information as articles as opposed to tweets in term of polarization effects, future studies would benefit from a method that better captures the relevant differences between information sources while still rendering them comparable. For example, a long-term study in a controlled environment where participants are repeatedly exposed to either only tweets or only articles may tease out differences that this experiment was unable to.

Concerning Hypothesis Two

As a reminder, H_2 is that irrespective of format, exposure to ideologically filtered pieces of information will change one's political opinions to a greater and more extreme degree than exposure to neutral pieces of information. To test this hypothesis an analysis of variance (ANOVA) model was run. Again, the dependent variable was a 0-100 "thermometer" rating of President Obama for the issue of immigration, and this time the independent variable was the author/source of the information (MSNBC, BBC World

News, Fox News, ESPN). The model generated a statistically significant relationship (f-value of 4.23 and p-value of 0.01) meaning that there are some differences regarding how people evaluate President Obama depending on the source of information they are exposed to.

Running a simple table produces the following findings: individuals who were exposed to information written by MSNBC, the “liberal” source, rated President Obama’s handling of immigration issues at 49.76 points, those exposed to BBC World News, the “neutral” source, gave a rating of 48.96 points, those exposed to Fox News, the “conservative” source, gave a rating of 45.91 points, and those exposed to ESPN, the “apolitical” source, gave a rating of 43.99 points. These results (displayed in Fig. 1) are very interesting. Since treatments were randomly assigned, these numbers demonstrate that 700 characters of content can have a nearly six-point impact on how an individual feels about a given political issue.

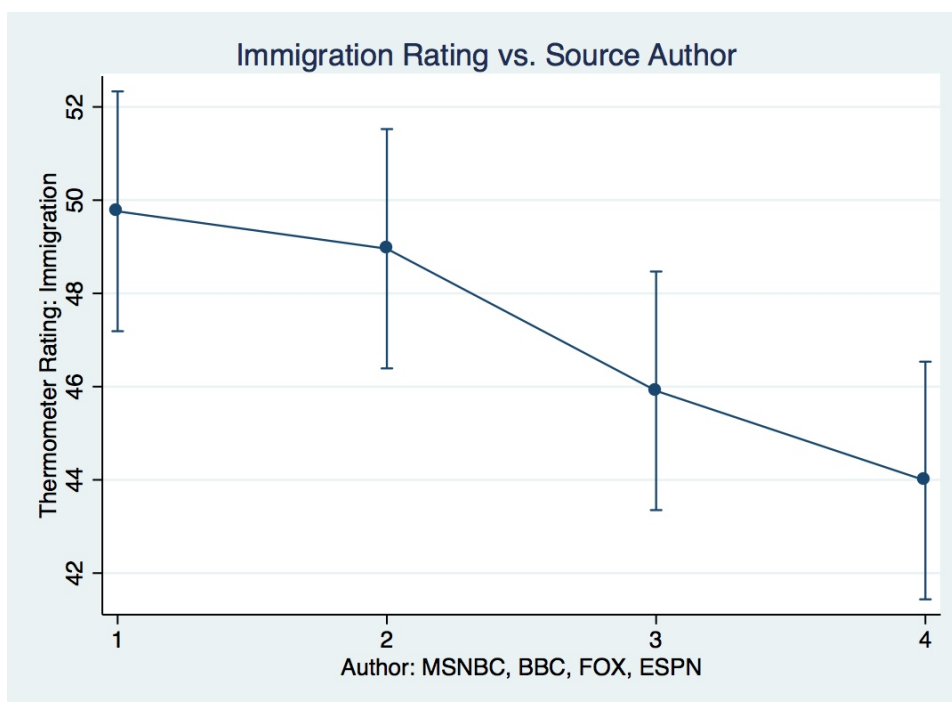


Figure 1. Effect of Author on Immigration Thermometer Rating

In an effort to see if source differences extend to issues other than the one discussed in the content consumed (immigration), respondents were asked to complete thermometer rating for President Obama on four others: jobs and the economy; education; health care; and energy and the environment. For no single issue other than immigration did exposure to specific sources of information produce a difference that was even close to statistically

significant. A variable was then created for the average rating of the five issues taken together for each respondent. When that measure was run as the dependent variable against the author/source of the information exposed to, there was no statistically significant relationship present (f-value of 0.38 and p-value of 0.76). This means that exposure to a specific of information does not subconsciously effect a reader's interpretation of issues not discussed in the writing. In other terms, being exposed to information from MSNBC about only Issue A will not cause a viewer to change their opinions to be more liberal on Issues B, C, etc.

All of the results discussed so far are meaningful, but they have yet to confirm or deny H_2 . To fully assess the polarizing power of a source of information, partisan affiliations must be interacted with. Otherwise, analysis can only be performed on a sample where opposing viewpoints offset each other. To include party identification, an additional ANOVA model is run with a thermometer rating of President Obama on immigration as the dependent variable, and both the author/source and respondent's political party identification as interacting independent variables. That model produced results that indicate there is not a statistically significant interaction.

Nevertheless, This is fascinating because as the graph of results (at the end of this paragraph) showing the interaction of the variables indicates, partisans of all stripes are influenced in the same direction by each author/source of information, with information from MSNBC leading to the highest intraparty rating of President Obama on immigration, followed closely by BBC World News, then Fox News, before finally, ESPN. From this information we are able to reject the anticipated findings described in H_2 that ideologically filtered pieces of information would be more polarizing than politically neutral information because in every instance, information from the neutral source (BBC World News) moved respondents' ratings further away from the baseline set by information from the apolitical source (ESPN) than information from one of the ideological sources (Fox News).

As Fig. 2 makes plain, the issue of immigration is very polarizing, with the average Democratic respondent assigning President Obama a rating of 60.60 points, which is 17.01 points more favorable than independents, and a full 40.51 points more favorable than Republicans. These partisan differences are evident across all five issues surveyed, with similar margins.

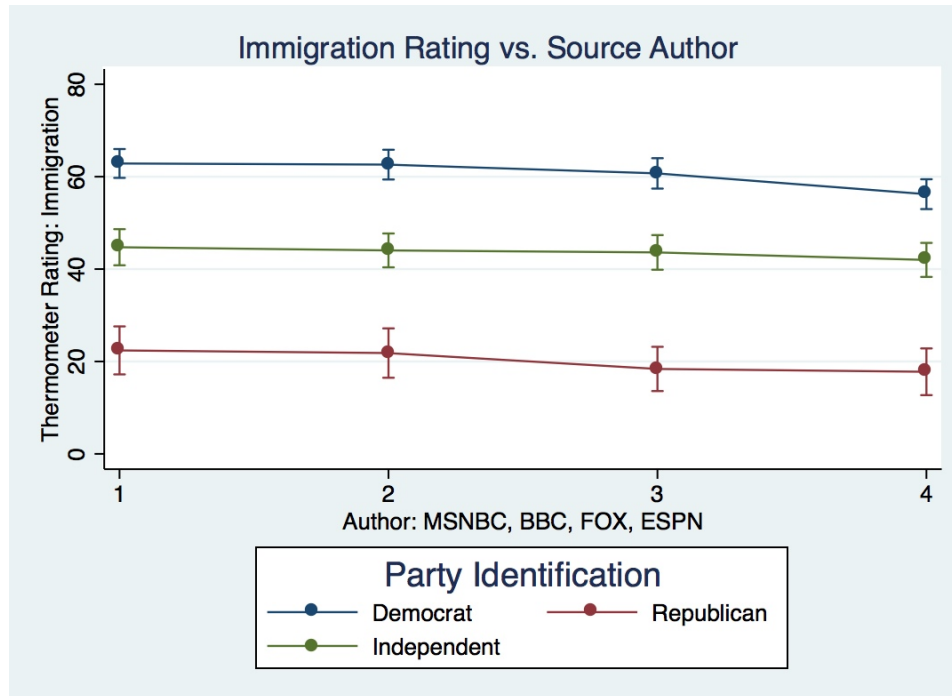


Figure 2. Effect of Author on Immigration Thermometer Rating by Party

Additional Findings

Outside of the main hypotheses about issue polarization, there are many worthwhile results from this experiment that deserve comment. One such result is the difference between being exposed to tweets or articles and the amount of time a respondent spends viewing the information. The expectation coming into this experiment was that people spend less time looking at information that is displayed as tweets than information that is displayed as an article. The motivating factor here is that tweets are necessarily standalone and cannot be read fluidly like sentences in a paragraph. This makes it so a person interacting with tweets must discard the last bit of information they consumed and bounce around without a connecting thread. In an article however, there is a narrative aspect that demands attention and a close reading. After removing outliers in the data to account for instances where people left their browser window open with the treatment information while multitasking, etc., a statistically significant difference is found, with an f -value of 165.58 and a p -value of 0.00. As visualized in Fig. 3, the average viewer spent 20.99 seconds reading five tweets, and 29.58 seconds reading the 700-character article, meaning that people spend over 40 percent longer reading the same amount of information when it is presented as an article instead of as tweets.

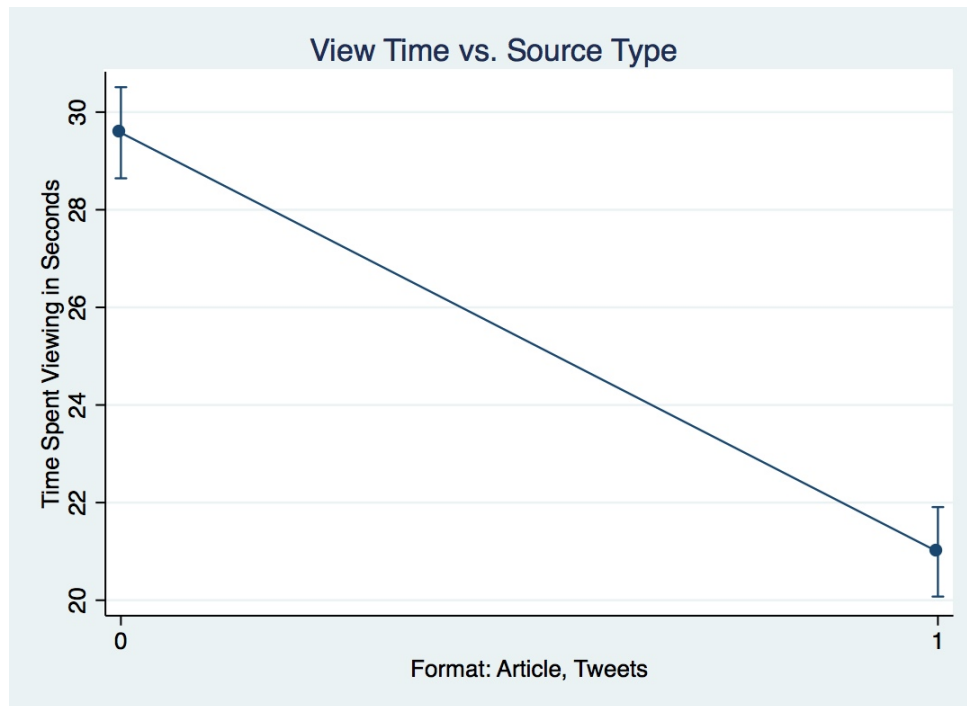


Figure 3. Effect of Format on Time Spent Viewing Content

Another interesting result that is dependent on the format of the information presented is the trust a respondent has in their source. One would expect that a source is trusted because it is factually accurate or has a track record of impartial coverage, and in theory, those criteria should apply across all different mediums, from television to print, radio to online. Yet, that was not the case in this experiment. A bivariate ANOVA model confirms as much. In the experiment questionnaire, participants were asked if they felt the source they were exposed to was fair and accurate in reporting, with two options: “yes,” and “no.” With all of those answers averaged together, we see that information presented as an article is trusted 79.30 percent of the time, 12.57 points higher than information presented as tweets. However the real story is found one layer deeper. In today’s fragmented media market, trust in a source of political information would seem dependent on a person’s partisanship—as much is confirmed by running an interactive ANOVA model. When the information is graphed, some curious things appear (see Fig. 4). The numbers on the x-axis of the graph correspond to the matrix displayed in the research design of this paper, with, for example, “1” meaning exposure to tweets from MSNBC, and “7” meaning exposure to an article from Fox News. The most striking result is that Democrats and

independents thoroughly distrusted tweets from Fox News, but found articles from Fox News much more reliable even though the content is identical.

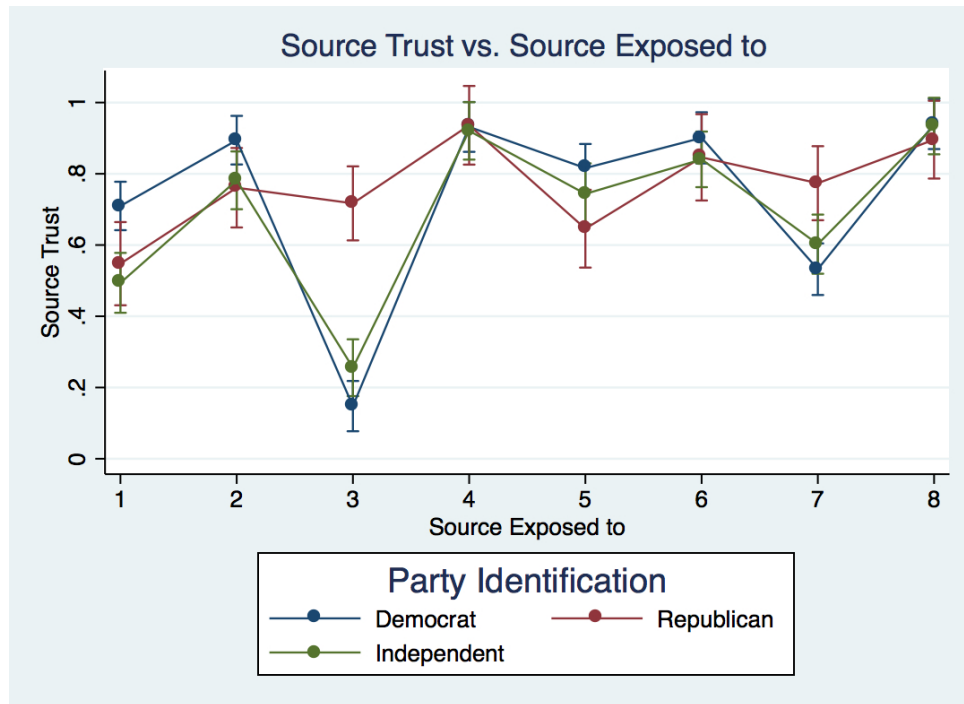


Figure 4. Effect of Source Type on Source Trust by Party

We can only speculate as to why this is the case, but one possibility is the “framing effect” as advanced in the book *The Paradox of Choice*. The effect is such that differences in the presentation of information can dramatically impact the ways in which people interact with that material (Schwartz 2005, 64). On its face, this explanation still fails to articulate why Fox News tweets were so distrusted compared to tweets from other sources, but the theory is a place to start. An additional point of interest is that Republican respondents did not have any similar extreme swings of distrust. Looking at responses from political independents it is encouraging to see that when it comes to political information, the neutral source (BBC World News) was trusted more highly than either of the ideologically filtered sources (MSNBC and Fox News). Also, ESPN scored nearly perfectly on the trust scale, which is expected, and indicates that respondents were taking the survey seriously. Just comparing the author/source of information and respondents’ trust in that source, we find that ESPN was trusted by 92.90 percent of the respondents who were exposed to it, BBC World News was trusted by 85.00 percent, MSNBC was trusted by 68.67 percent, and Fox News was trusted by 45.13 percent.

This next evaluation gets at the point of news: to learn information about the world. In the post-treatment survey participants were asked to answer how many people President Obama's action on immigration applies to, and given multiple choices in increments of three million, from zero up to a total of twelve. In every source of political information a number between three and six million was stated. Post-collection, answers were recoded binomially indicating either a correct or incorrect answer. When an ANOVA model is run with those correct answers as the dependent variable and both the author/source and format of information as interacting independent variables, everything is statistically significant. Levels of learning are exhibited in Fig. 5 below.

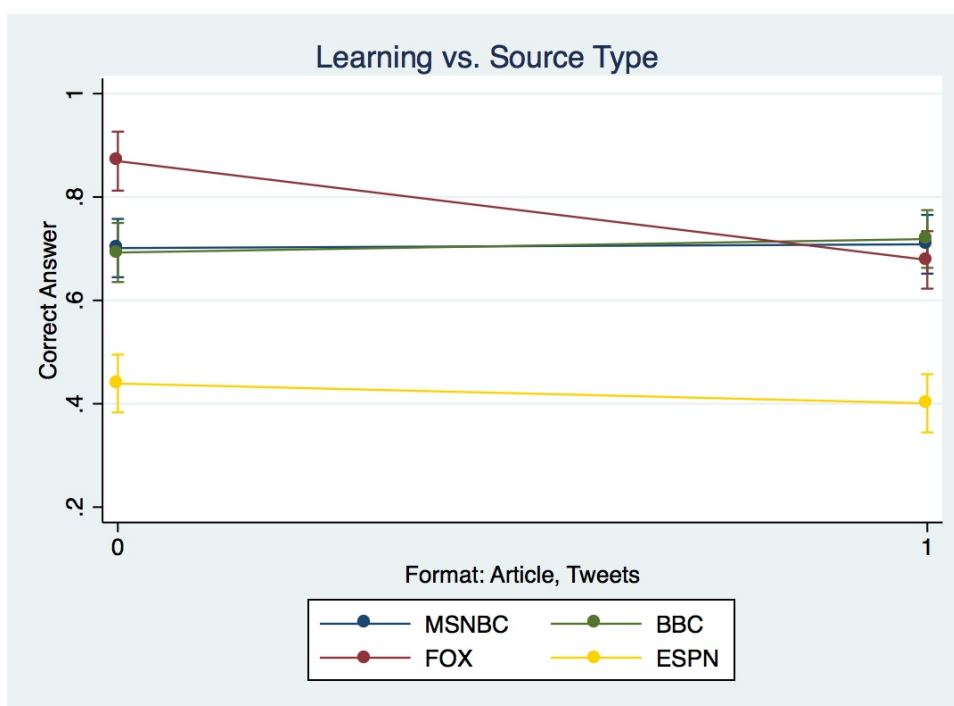


Figure 5. Effect of Format on Learning by Author

What's strange is that while all of the groups exposed to political information knew more than those exposed to apolitical information, far and away, more people learned information by reading the Fox News article than from any other source. There is even a nearly 20-point difference between the article and the Fox News tweets that have the exact same information. In part, this is because the title of the Fox News article contained a value that was an answer to the question. This supports the idea that readers pay more attention to information in a title than in the body of a text. Compounding the intrigue is what we find when we look at respondents' interest in the

information they consumed. No matter how the data are sliced, respondents (not accounting for party identification) are less interested in the topic of immigration when they encounter information from Fox News (64.61 percent interest) than from either MSNBC (76.31 percent) or BBC World News (74.80 percent). The same statistically significant rank ordering emerges when instead of interest, desire to learn more about the topic of immigration is tested. Once again, the average person who encountered information from Fox News had a low desire to learn more (48.70 percent) relative to those who were exposed to information from MSNBC (63.05 percent) or BBC World News (62.00 percent). All of this points to a rather remarkable finding that even though respondents who were exposed to information from Fox News consequently had the lowest levels of both interest in immigration and desire to learn more about it, they ended up coming away having retained the most information.

Using data from the experiment, there is still another statistically significant relationship that speaks to today's partisan atmosphere. Political campaigns, where the goal is to ~~polarize~~ mobilize a base, are especially fertile grounds for one-sided messaging. Participants in the experiment were asked if they took part in a number of different political actions in the past year—during which time a midterm election happened—and those responses were interacted with the type of content a person was exposed to, tweets or an article, and compared to the party rating difference dependent variable that was defined earlier. When ANOVA models were run, outcomes for the interacted independent variables were insignificant for each political action except for one: working or volunteering for a political party or candidate, which had an f-value of 4.12 and a p-value of 0.04. This makes sense, because as authors discussed in the “Polarization Theories” section of this thesis claim, it is the active partisans that are most likely to be polarized, and investing time in a political campaign surely qualifies one as being “active.” In this author's experience on the digital team of a major 2014 campaign, the news cycle is now tweet-based, and the easier something is to synthesize and form an opinion about, the better. As David Axelrod, senior political consultant and message maven for both Obama presidential campaigns puts it, “yes, you follow Twitter and you're aware that any little event somewhere could hijack a day's news” (NPR 2015). That thought process helps explain Fig. 6 showing that campaign workers who were exposed to tweets had a nearly 15-points greater difference in their thermometer ratings of Democrats and Republicans than campaign workers who were exposed to articles.

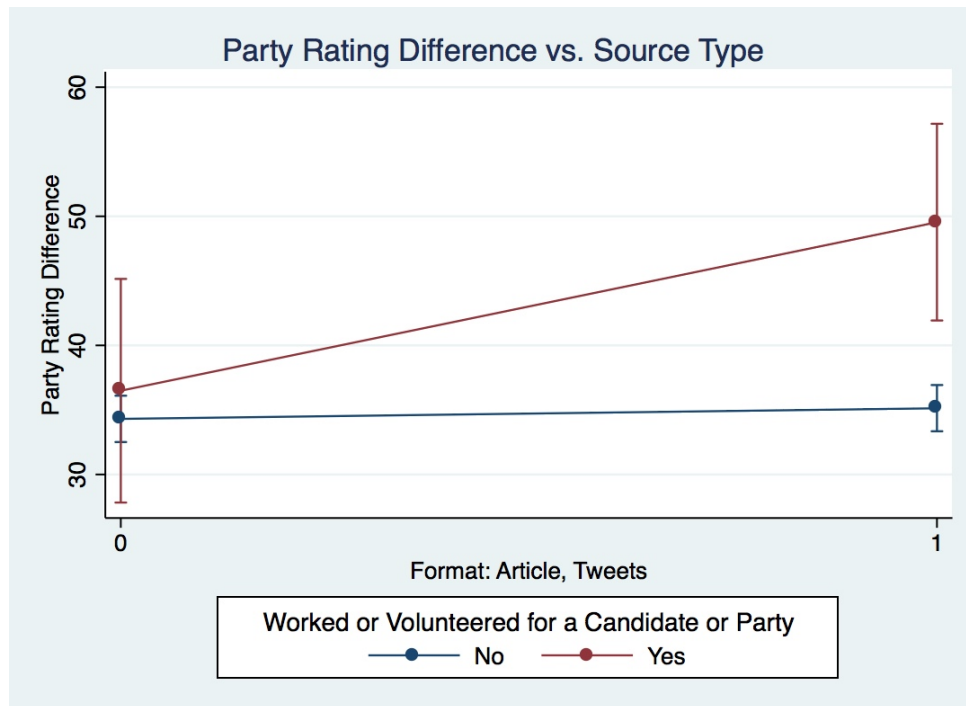


Figure 6. Effect of Format on Polarization by Campaign Work

Further confirming these findings, when the dependent variable was switched from party rating difference to perceived polarization, statistical significance remained (f-value of 4.10 and p-value of 0.04). The pattern was nearly identical too, with respondents who *were not* involved with a campaign experiencing just about a point of difference in their perceived polarization ratings if exposed to either tweets or an article, while those who *were* involved with a campaign perceiving polarization to be 9.50 points greater when exposed to tweets instead of an article.

VIII. CONCLUSIONS

One of the definite limitations of this thesis is that the Internet is being treated as a one-way communications platform where users only consume information, but are not content creators themselves. Clearly, this is unrealistic for many people, as one of the core premises of social media like Twitter is that users write their own posts to express opinions. Still, it should not be lost just how influential the passive use of sites such as Twitter can be on shaping political beliefs. As discussed above and represented by Fig. 1, exposure to even as few as five tweets or a single 700-character article can have an immediate impact on the favorability of certain policies for a given

individual. Although it was not empirically tested in this paper, the self-selectivity of Internet news sources and the algorithms within search engines can lead to repeated instances of these seemingly insignificant 700-character bits of information. Over time, this is how identities are developed and hardened. It should be noted, however, that technology does not change human nature. Even in the days before the Internet and 24/7 cable news, consumers craved information that fell in line with their beliefs. Today it's just easier to get it than ever before.

Objectively, the experiment proved to be successful. While the ultimate conclusion of this work is that being presented with information as tweets instead of articles does *not* make a significant difference in terms of political polarization, there remain many meaningful and novel results from the project. Looking at the differences between tweets and articles, the evidence suggests that people generally spend more time reading information when it is presented as an article and find that information to be more trustworthy. The formatting of information also matters for certain groups in the population like campaign workers who have a greater familiarity with certain sources. Curiously, differences between authors of information seem to be reserved for Fox News, with tweets from the source being heavily distrusted by Democrats and independents, but the article outperforming all other sources when it came to teaching respondents factual information.

Just as this work has engaged with the topic of the Internet and politics in a way that is unique to the medium, future scholars would be wise to embrace the properties that make it distinct from other means of building relationships. This is an exciting time to do research about the topic, when media is rich with potentially powerful and practical discoveries that can inform elected officials how to better serve their constituents, galvanize issue groups to make their voices heard, and cause everyday citizens to abandon a comfortable consensus in favor of personal growth. Fractured politics can only survive for so long before it becomes apparent that we must work together to solve problems and achieve the promise of America herself: *out of many, one*.

IX. ACKNOWLEDGEMENTS

Foremost, I want to thank my primary advisor, Associate Professor of Political Science Jennifer Wolak, for all that she has done to turn my ambitious idea into the thesis before you. When I came to her last year and said that I wanted to explore how the Internet impacts political polarization, she wasted no time providing me with an anthology of materials to pour

through—and held me accountable to do so. I sincerely appreciate her willingness to accommodate my demanding schedule and answer emails well past “working hours.” This thesis would fail to exist were it not for her time, judicious suggestions, and ever-present challenges. The same could be said to any number of professors and peers that graciously read drafts of this work and added their thoughts along the way. I especially would like to express how grateful I am to have had the support of the other members of my thesis team, E. Scott Adler, who is a Professor of Political Science and serves as the Director of Graduate Studies within the department, and Joel Swanson, who is the Director of the Technology, Arts & Media Program within the ATLAS Institute, as well as a media theorist and visual artist. Each of them has played an absolutely critical role in shaping this work. Fundamental too, has been the financial support I received from the Undergraduate Research Opportunities Program (UROP) here at CU-Boulder.

A debt of gratitude must also be paid to my former bosses, United States senators for Colorado, Michael Bennet and Mark Udall, for inspiring me to seek opportunities that improve the lives of others, and showing me that government can be a force for good if those who are elected rise above finger pointing and instead use their resources to find solutions to problems that impact the people they represent. I would also like to thank my mother Alice, who has always encouraged my love of learning, my father Scott, for engaging me in hours of political debate, and my brother Thomas, for being my closest friend for the past nineteen years. Finally, I thank you, Dear Reader, for without whom my many months of reading, writing, sleepless nights, and data regressions would have been an exercise in futility.

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XI. APPENDIX

Experiment Questions and Visuals

3/14/2015

Qualtrics Survey Software

Introduction

This study is about understanding how people use the Internet to learn about politics. During the course of the study, you will answer a few questions, then read either an article or a series of tweets, and finally answer questions about what you read.

We do not know of any personal risk or discomfort you will have from being in this study. There are no direct benefits to you from taking part in this study.

Participating in this study is completely voluntary. You do not have to take part if you do not want to, and you will not be penalized if you decide not to participate in the study. Your responses will be completely anonymous. By completing the survey, you are indicating that you agree to participate in this research.

This research project is being conducted by James Bradbury, a political scientist at the University of Colorado Boulder. He can be reached by e-mail: james.bradbury@colorado.edu

This study has been reviewed and approved by the CU-Boulder Institutional Review Board (IRB). If you have questions regarding your rights as a participant, any concerns regarding this project, or any dissatisfaction with any aspect of this study, you may report them—confidentially, if you wish—to the IRB. You can reach the IRB by phone: (303) 735-3702 or by e-mail: irbadmin@colorado.edu.

Before Questions

On average, how many hours each day do you spend using the Internet?

0-2

3-4

5-6

7-8

9-10

More than 10

Approximately what percentage of your information about political news and current events is learned using an Internet resource?

0 10 20 30 40 50 60 70 80 90 100
0-100

Which online resources do you use for political information? Check all that apply:

Online versions of print newspapers (nytimes.com, wsj.com, etc.)

News aggregators (Google News, Yahoo News, etc.)

Social networking sites (Twitter, Facebook, etc.)

Political blogs (Hot Air, Daily Kos, etc.)

Other

I do not use the Internet for learning about political news and current events

Which of the following political labels do you identify with?

Strongly Democrat

Democrat

Weakly Democrat

Unaffiliated / Independent

Weakly Republican

Republican

Strongly Republican

Did you vote in the 2012 presidential election?

Yes

No

I was ineligible to vote in 2012 (not an American citizen, too young, etc.)

Between Barack Obama and Mitt Romney, who did you prefer in the 2012 presidential election?

Barack Obama

Mitt Romney

On a scale of 0-100, please rate President Obama's overall job performance, with "0" being the worst possible rating, and "100" being the best:

0 10 20 30 40 50 60 70 80 90 100
0-100

On a scale of 0-100, please indicate how you feel about the following statement, with "0" indicating complete disagreement, and "100" indicating complete agreement:

"undocumented immigrants currently living in America should be offered a pathway to citizenship."

0 10 20 30 40 50 60 70 80 90 100
0-100

On a scale of 0-100, please indicate how you feel about the following statement, with "0" indicating complete disagreement, and "100" indicating complete agreement: "illegal aliens currently living in America should be offered amnesty."

0 10 20 30 40 50 60 70 80 90 100
0-100

Liberal Tweets

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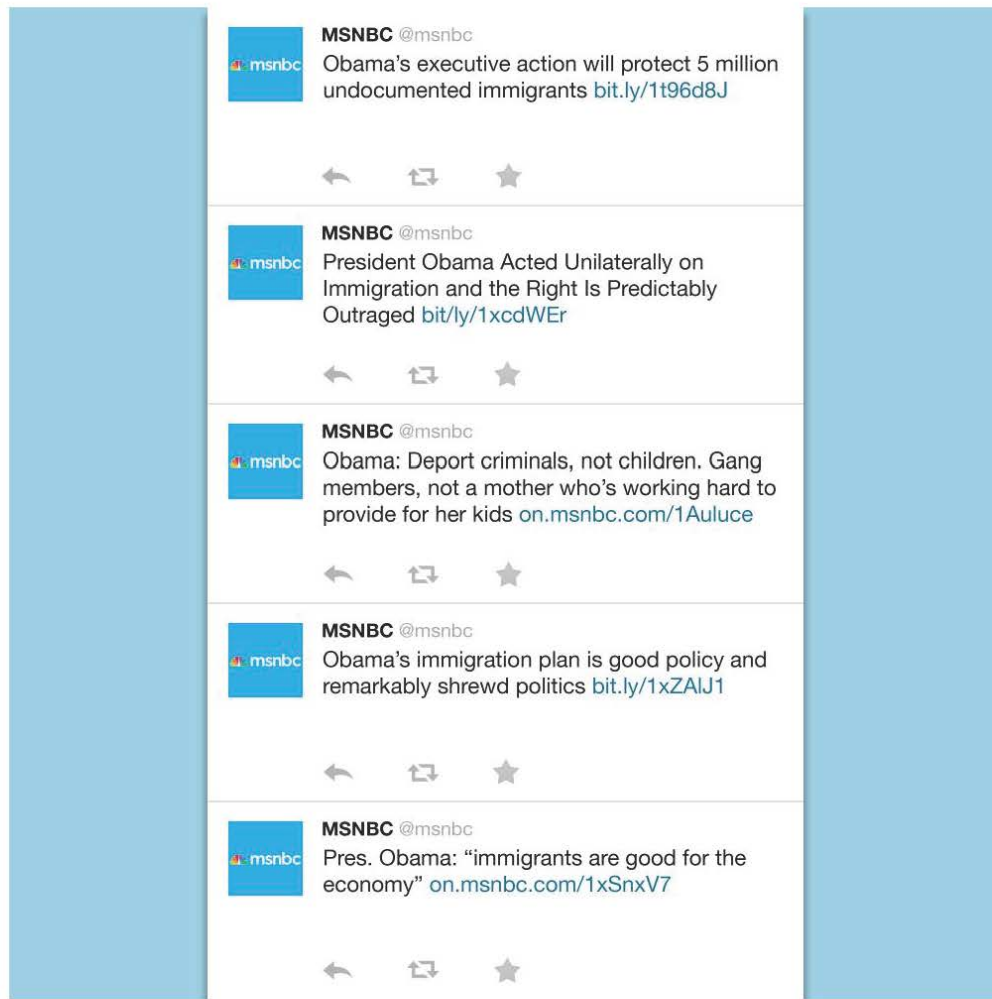
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Please read the following tweets:



Neutral Tweets

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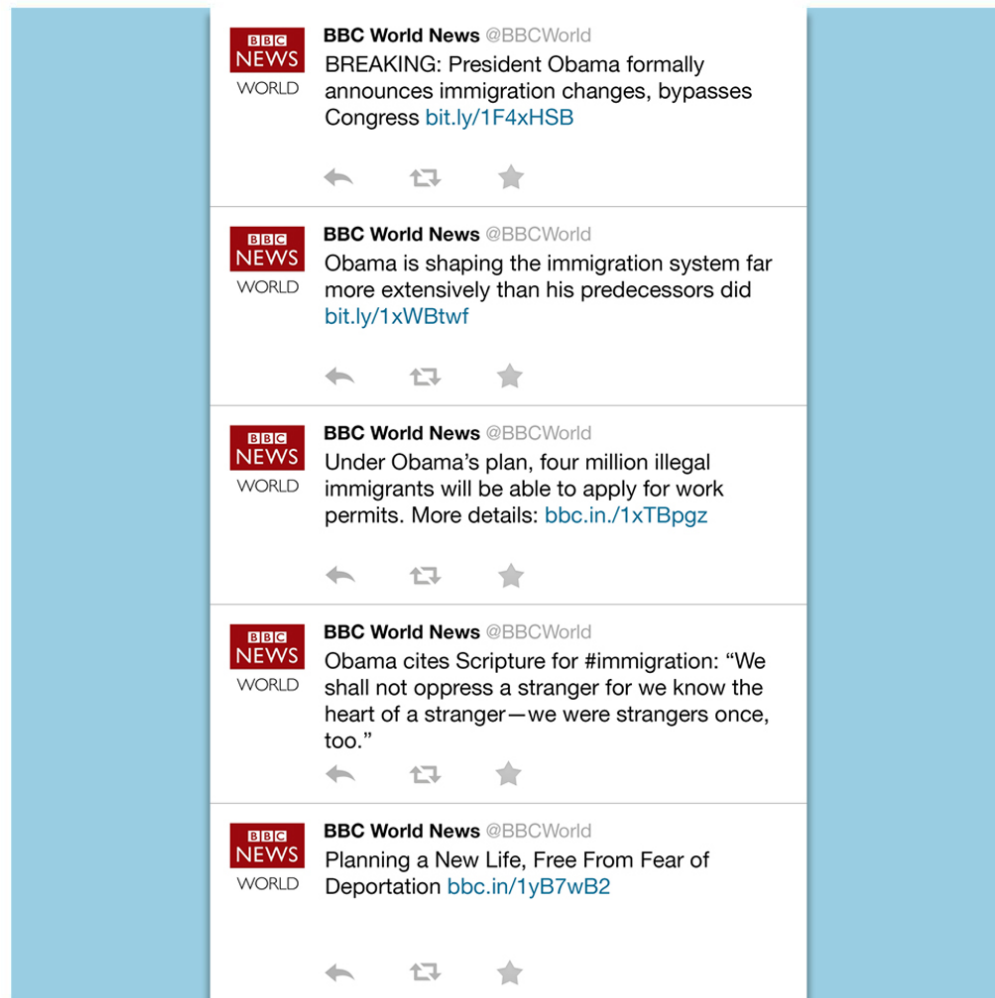
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5/18

Please read the following tweets:



Conservative Tweets

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6/18

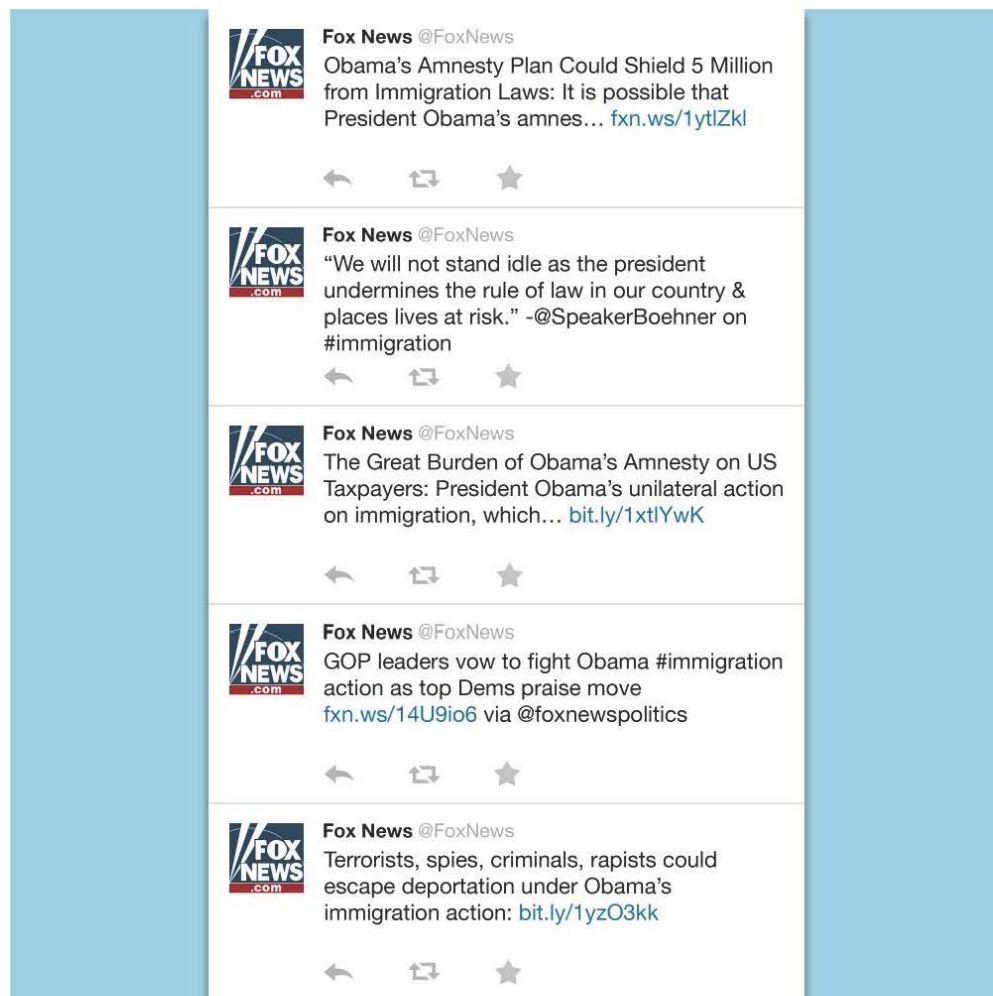
First Click: 0 seconds.

Last Click: 0 seconds.

Page Submit: 0 seconds.

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Please read the following tweets:



Fox News @FoxNews
Obama's Amnesty Plan Could Shield 5 Million from Immigration Laws: It is possible that President Obama's amnes... fxn.ws/1ytIZkl

Fox News @FoxNews
"We will not stand idle as the president undermines the rule of law in our country & places lives at risk." -@SpeakerBoehner on #immigration

Fox News @FoxNews
The Great Burden of Obama's Amnesty on US Taxpayers: President Obama's unilateral action on immigration, which... bit.ly/1xtlYwK

Fox News @FoxNews
GOP leaders vow to fight Obama #immigration action as top Dems praise move fxn.ws/14U9io6 via @foxnewspolitics

Fox News @FoxNews
Terrorists, spies, criminals, rapists could escape deportation under Obama's immigration action: bit.ly/1yzO3kk

Apolitical Tweets

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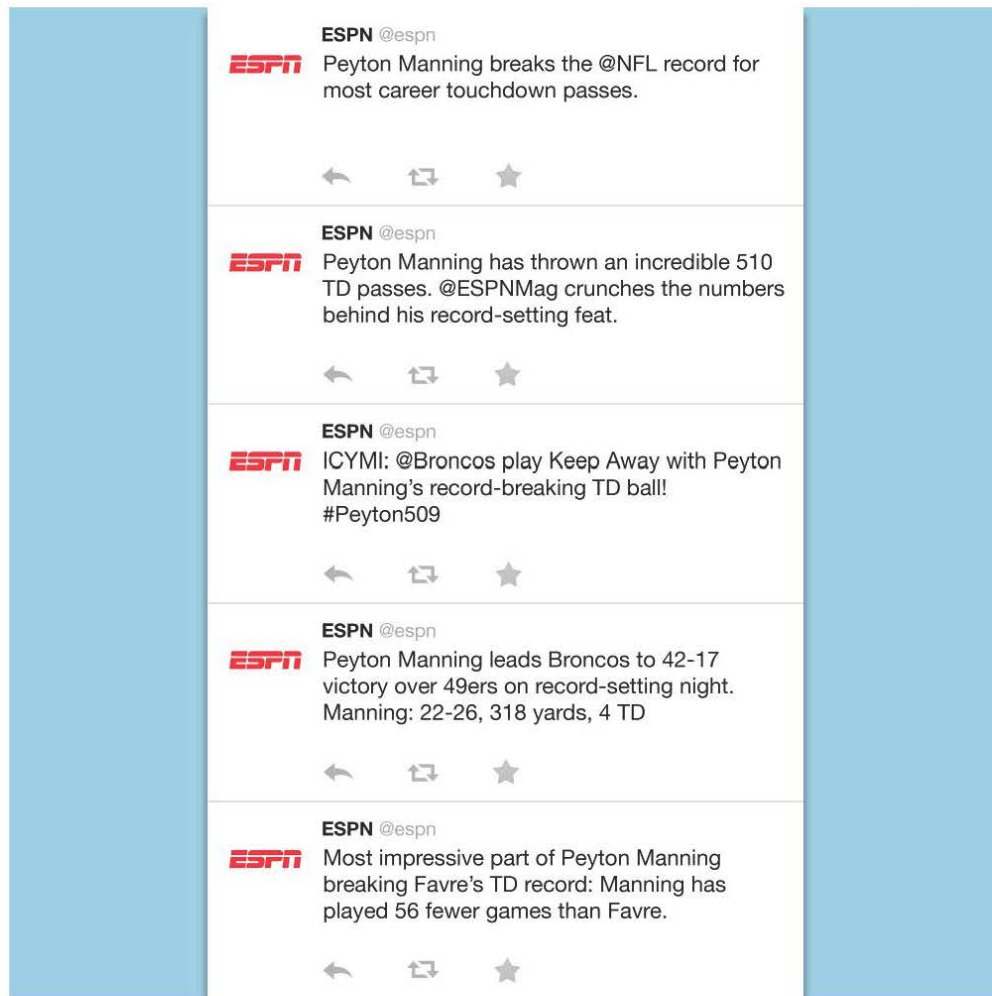
First Click: *0 seconds.*

Last Click: *0 seconds.*

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Click Count: *0 clicks.*

Please read the following tweets:



Liberal Article

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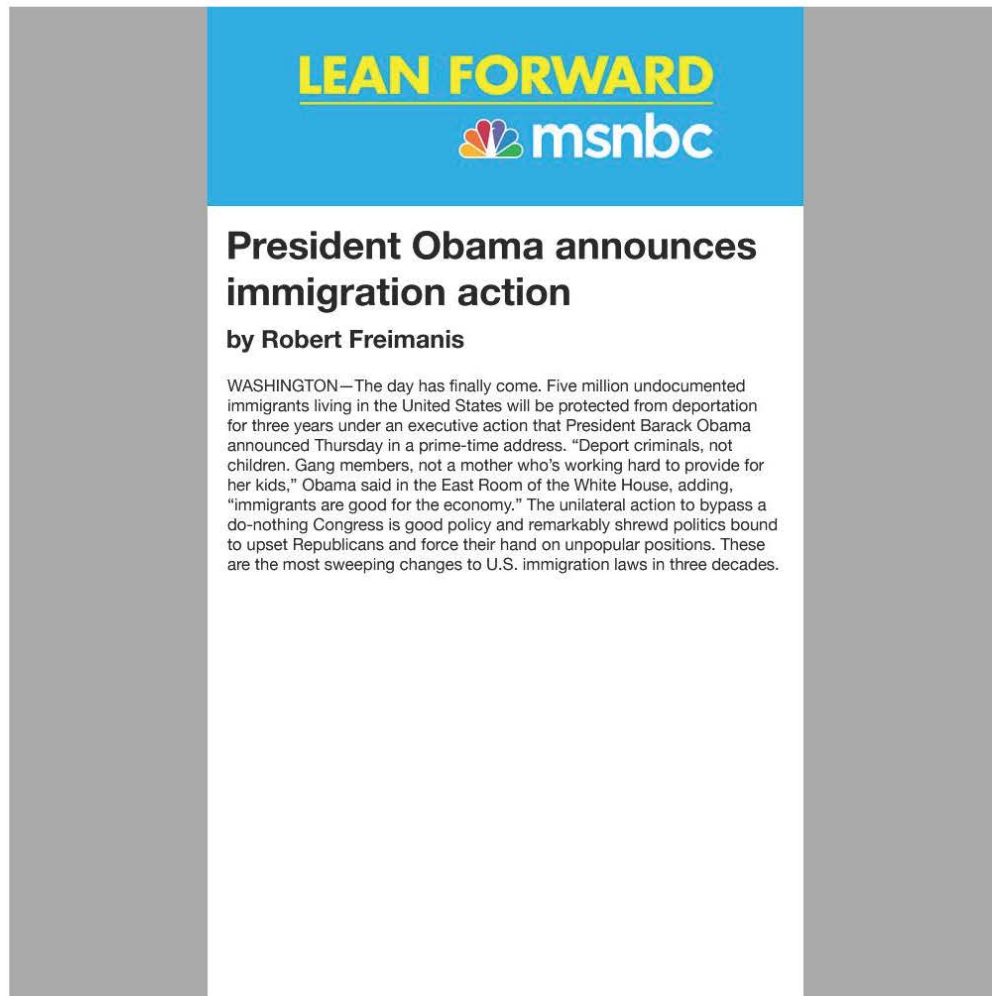
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<https://cuboulder.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=16KDAQtvSXJngp2hz2pc6G>

9/18

Please read the following article:



Neutral Article

These page timer metrics will not be displayed to the recipient.

<https://cuboulder.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=16KDAQtvSXJngp2hz2pc6G>

10/18

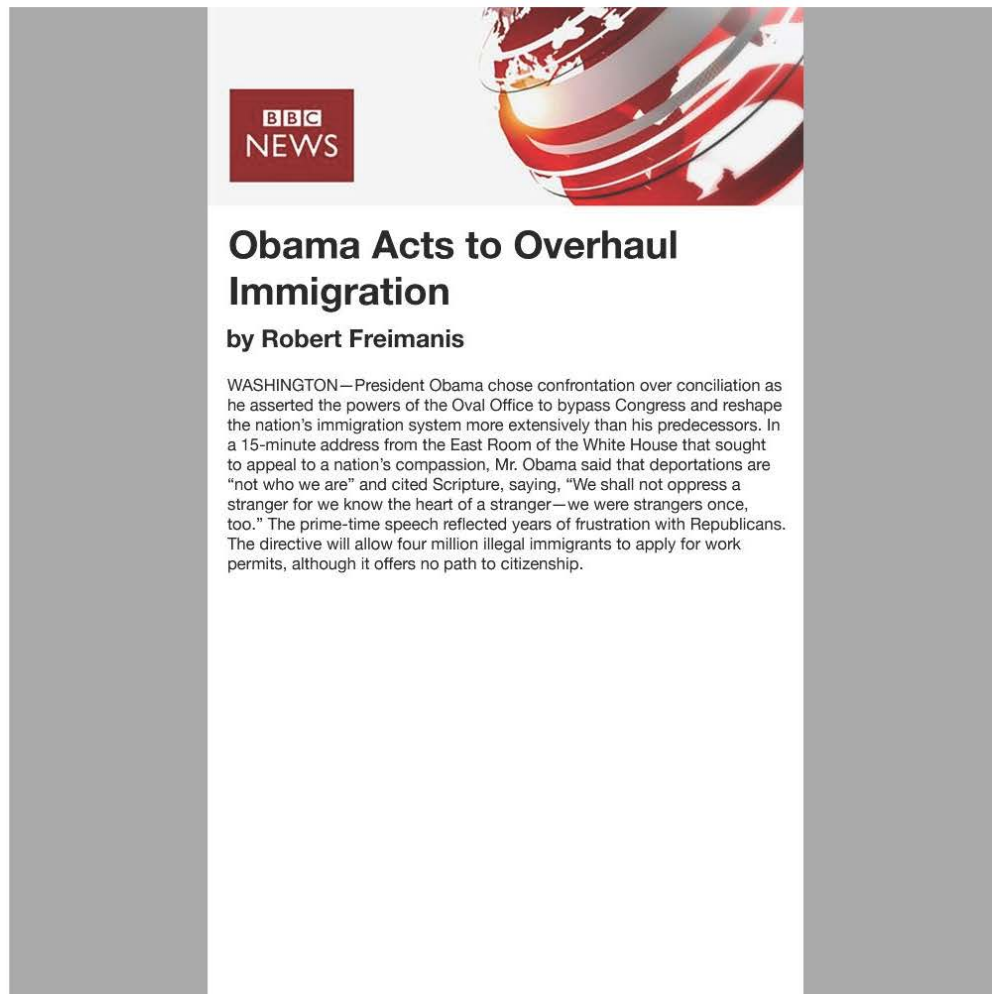
First Click: 0 seconds.

Last Click: 0 seconds.

Page Submit: 0 seconds.

Click Count: 0 clicks.

Please read the following article:



BBC NEWS

Obama Acts to Overhaul Immigration

by Robert Freimanis

WASHINGTON—President Obama chose confrontation over conciliation as he asserted the powers of the Oval Office to bypass Congress and reshape the nation's immigration system more extensively than his predecessors. In a 15-minute address from the East Room of the White House that sought to appeal to a nation's compassion, Mr. Obama said that deportations are "not who we are" and cited Scripture, saying, "We shall not oppress a stranger for we know the heart of a stranger—we were strangers once, too." The prime-time speech reflected years of frustration with Republicans. The directive will allow four million illegal immigrants to apply for work permits, although it offers no path to citizenship.

Conservative Article

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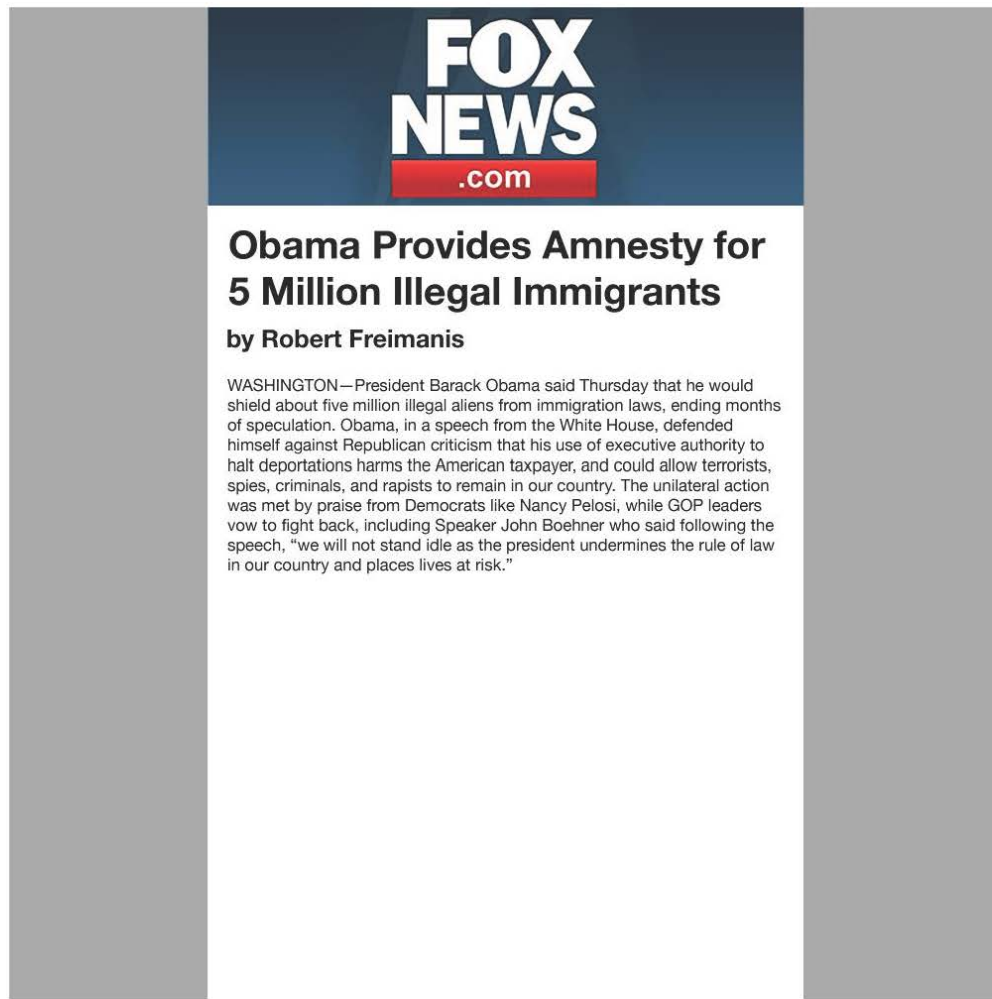
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Last Click: *0 seconds.*

Page Submit: *0 seconds.*

Click Count: *0 clicks.*

Please read the following article:



Apolitical Article

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13/18

Please read the following article:



Peyton Manning Breaks TD Record

by Robert Freimanis

Peyton Manning broke the NFL's all-time touchdown record just like he's played the quarterback position for 17 seasons, with cold-blooded efficiency and a minimum of drama. Manning entered Sunday's game needing three scores to break the record. He did that by halftime in a 42-17 rout by the Broncos over San Francisco. Manning connected with Demaryius Thomas for an 8-yard touchdown in the second quarter for his 509th career touchdown pass, passing Brett Favre to set the all-time record. It was a fitting record-beaker. The ball wobbled just a bit, but it was perfectly placed to Thomas, who dragged his feet for six. "Well it's quite an honor," Manning said immediately following the game.

After Questions

Are you interested in the topic you just read about?

Yes

No

Would you like to learn more about the topic?

Yes

No

Who wrote the article or tweets you read?

BBC World News

ESPN

Fox News

MSNBC

The New York Times

Was the source fair and accurate in its reporting?

Yes

No

On a scale of 0-100, please rate President Obama's performance on the following national issues, with "0" being the worst possible rating, and "100" being the best:

0 10 20 30 40 50 60 70 80 90 100

Jobs and the
economy

Education

Health care

Immigration

Energy and the
environment

Which political party is President Obama a member of?

Democrats

Republicans

On a scale of 0-100, how do you feel about Democrats and Republicans? With "0" being the worst possible rating, and "100" being the best:

0 10 20 30 40 50 60 70 80 90 100

Democrats

Republicans

Which of the following political labels do you identify with?

Strongly Democrat

Democrat

Weakly Democrat

Unaffiliated / Independent

Weakly Republican

Republican

Strongly Republican

How many people does President Obama's executive action on immigration apply to?

- 0-3 million
 - 3-6 million
 - 6-9 million
 - 9-12 million
-

Do you have a friend or family member who has immigrated to the United States, but is not an American citizen?

- Yes
 - No
-

Which political party currently holds a majority in the United States Senate?

- Democrats
 - Republicans
 - Independents
 - Control is split evenly between Democrats and Republicans
-

On a scale of 0-100, how polarized is the American political system? With "0" being not at all polarized, and "100" being more polarized than at any point in history:

0 10 20 30 40 50 60 70 80 90 100
0-100

During the past year, which of the following activities did you participate in? Check all that apply:

- Attended a political rally or speech
- Worked or volunteered for a political party or candidate

Donated money to a political party or candidate

Attended a city council meeting

Worked with others in your community to solve a problem

None of the above

How old are you?

What gender do you most closely identify with?

Male

Female

Other

What is the highest level of education that you have completed?

Less than high school

High school graduate

Some college

Associate degree

Bachelor degree

Post-graduate work

Powered by Qualtrics

A map of the United States showing the distribution of respondent locations. Red circles with numbers inside represent the count of respondents at various locations. The map includes state boundaries and names. The distribution is as follows:

Location	Count
Seattle	42
Portland	56
San Francisco	110
San Jose	110
Los Angeles	129
San Diego	129
Las Vegas	12
Phoenix	38
Tucson	38
Albuquerque	11
Denver	38
San Antonio	53
Austin	53
Dallas	52
Phoenix	38
San Jose	110
San Francisco	110
Los Angeles	129
San Diego	129
Las Vegas	12
Phoenix	38
Tucson	38
Albuquerque	11
Denver	38
San Antonio	53
Austin	53
Dallas	52
Phoenix	38
San Jose	110
San Francisco	110
Los Angeles	129
San Diego	129
Las Vegas	12
Phoenix	38
Tucson	38
Albuquerque	11
Denver	38
San Antonio	53
Austin	53
Dallas	52
Phoenix	38
San Jose	110
San Francisco	110
Los Angeles	129
San Diego	129
Las Vegas	12
Phoenix	38
Tucson	38
Albuquerque	11
Denver	38
San Antonio	53
Austin	53
Dallas	52
Phoenix	38
San Jose	110
San Francisco	110
Los Angeles	129
San Diego	129
Las Vegas	12
Phoenix	38
Tucson	38
Albuquerque	11
Denver	38
San Antonio	53
Austin	53
Dallas	52
Phoenix	38
San Jose	110
San Francisco	110
Los Angeles	129
San Diego	129
Las Vegas	12
Phoenix	38
Tucson	38
Albuquerque	11
Denver	38
San Antonio	53
Austin	53
Dallas	52
Phoenix	38
San Jose	110
San Francisco	110
Los Angeles	129
San Diego	129
Las Vegas	12
Phoenix	38
Tucson	38
Albuquerque	11
Denver	38
San Antonio	53
Austin	53
Dallas	52
Phoenix	38
San Jose	110
San Francisco	110
Los Angeles	129
San Diego	129
Las Vegas	12
Phoenix	38
Tucson	38
Albuquerque	11
Denver	38
San Antonio	53
Austin	53
Dallas	52
Phoenix	38
San Jose	110
San Francisco	110
Los Angeles	129
San Diego	129
Las Vegas	12
Phoenix	38
Tucson	38
Albuquerque	11
Denver	38
San Antonio	53
Austin	53
Dallas	52
Phoenix	38
San Jose	110
San Francisco	110
Los Angeles	129
San Diego	129
Las Vegas	12
Phoenix	38
Tucson	38
Albuquerque	11
Denver	38
San Antonio	53
Austin	53
Dallas	52
Phoenix	38
San Jose	110
San Francisco	110
Los Angeles	129
San Diego	129
Las Vegas	12
Phoenix	38
Tucson	38
Albuquerque	11
Denver	38
San Antonio	53
Austin	53
Dallas	52
Phoenix	38
San Jose	110
San Francisco	110
Los Angeles	129
San Diego	129
Las Vegas	12
Phoenix	38
Tucson	38
Albuquerque	11
Denver	38
San Antonio	53
Austin	53
Dallas	52
Phoenix	38
San Jose	110
San Francisco	110
Los Angeles	129
San Diego	129
Las Vegas	12
Phoenix	38
Tucson	38
Albuquerque	11
Denver	38
San Antonio	53
Austin	53
Dallas	52
Phoenix	38
San Jose	110
San Francisco	110
Los Angeles	129
San Diego	129
Las Vegas	12
Phoenix	38
Tucson	38
Albuquerque	11
Denver	38
San Antonio	53
Austin	53
Dallas	52
Phoenix	38
San Jose	110
San Francisco	110
Los Angeles	129
San Diego	129
Las Vegas	12
Phoenix	38
Tucson	38
Albuquerque	11
Denver	38
San Antonio	53
Austin	53
Dallas	52
Phoenix	38
San Jose	110
San Francisco	110
Los Angeles	129
San Diego	129
Las Vegas	12
Phoenix	38
Tucson	38
Albuquerque	11
Denver	38
San Antonio	53
Austin	53
Dallas	52
Phoenix	38
San Jose	110
San Francisco	110
Los Angeles	129
San Diego	129
Las Vegas	12
Phoenix	38
Tucson	38
Albuquerque	11
Denver	38
San Antonio	53
Austin	53
Dallas	52
Phoenix	38
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Approval Letter from IRB



University of Colorado
Boulder

Institutional Review Board
563 UCB
Boulder, CO 80309
Phone: 303.735.3702
Fax: 303.735.5185
FWA: 00003492

APPROVAL

26-Jan-2015

Dear James Bradbury,

On **26-Jan-2015** the IRB reviewed the following protocol:

Type of Submission:	Initial Application
Review Category:	Expedited - Category 7
Title:	James Bradbury Undergraduate Thesis
Investigator:	Bradbury, James
Protocol #:	15-0001
Funding:	Non-Federal
Documents Approved:	15-0001 Consent Form (26Jan15); bradbury-thesis-experiment-questionnaire; 15-0001 Protocol (26Jan15);
Documents Reviewed:	bradbury-thesis-experiment-works-cited; HRP-211: FORM - Initial Application;

The IRB approved the protocol from **26-Jan-2015** to **25-Jan-2016** inclusive.

Before **26-Dec-2015**, you are to submit a completed [FORM: Continuing Review \(HRP-212\)](#) and required attachments to request continuing approval or closure. This protocol will expire if continuing review approval is not granted before **25-Jan-2016**.

Click the link to find the approved documents for this protocol: [Approved Documents](#). Use copies of these documents to conduct your research.

In conducting this protocol you must follow the requirements listed in the [INVESTIGATOR MANUAL \(HRP-103\)](#).

Sincerely,
Douglas Grafel
IRB Admin Review Coordinator
Institutional Review Board